

CLAIMS

What is claimed is:

- 1 1. A sensor assembly that is coupled to a latch of a
2 child safety seat, comprising:
3 a first housing member;
4 a second housing member that moves relative to said
5 first housing member and is coupled to the latch of the
6 child safety seat; and,
7 a sensor subassembly that is coupled to said first and
8 second housing members and senses a movement of said second
9 housing member.
- 1 2. The assembly of claim 1, wherein said second
2 housing member includes a ring that is coupled to the latch
3 of the child safety seat.
- 1 3. The assembly of claim 1, further comprising a
2 biasing spring that is coupled to said first housing member
3 and a second housing member.

1 4. The assembly of claim 1, wherein said sensor
2 subassembly includes a magnet and a Hall Effect sensor.

1 5. The assembly of claim 1, wherein said sensor
2 subassembly includes a switch that is coupled to said
3 second housing member.

1 6. The assembly of claim 1, wherein said first
2 housing member includes a flange adapted to be mounted to a
3 seat frame.

1 7. The assembly of claim 1, wherein said first
2 housing member includes a stop that limits the movement of
3 said second housing member.

1 8. A sensor assembly that is coupled to a latch of a
2 child safety seat, comprising:

3 a first housing member;

4 a second housing member that moves relative to said
5 first housing member and is coupled to the latch of the
6 child safety seat; and,

7 sensor means for sensing a movement of said second
8 housing member.

1 9. The assembly of claim 8, wherein said second
2 housing member includes a ring that is coupled to the latch
3 of the child safety seat.

1 10. The assembly of claim 8, further comprising a
2 biasing spring that is coupled to said first housing member
3 and a second housing member.

1 11. The assembly of claim 8, wherein said sensor means
2 includes a magnet and a Hall Effect sensor.

1 12. The assembly of claim 8, wherein said sensor means
2 includes a switch that is coupled to said second housing
3 member.

1 13. The assembly of claim 8, wherein said first
2 housing member includes a flange adapted to be mounted to a
3 seat frame.

1 14. The assembly of claim 8, wherein said first
2 housing member includes a stop that limits the movement of
3 said second housing member.

1 15. A sensor system that is coupled to a latch of a
2 child safety seat that is placed on a seat assembly,
3 comprising:

4 a sensor that is mounted to the seat assembly and
5 coupled to the latch of the child safety seat; and,

6 a display that is coupled to said sensor and provides
7 an indication of when the latch of the child safety seat is
8 coupled to said sensor.

1 16. The system of claim 15, further comprising a
2 controller that receives an input signal from said sensor
3 and provides an output signal to said display to indicate
4 when the latch of the child safety seat is coupled to said
5 sensor.

1 17. The system of claim 15, wherein said sensor
2 includes a ring that is coupled to the latch of the child
3 safety seat.

1 18. The system of claim 15, wherein said sensor
2 includes a first housing member, and a second housing
3 member that can move relative to said first housing member,
4 and a biasing spring that is coupled to said first and
5 second housing members.

1 19. The system of claim 15, wherein said sensor
2 includes a magnet and a Hall Effect sensor.

1 20. The system of claim 15, wherein said sensor
2 includes a switch.

1 21. The system of claim 18, wherein said first housing
2 member includes a flange adapted to be mounted to a seat
3 frame of the seat assembly.

1 22. The system of claim 18, wherein said first housing
2 member includes a stop that limits the movement of said
3 second housing member.

1 23. A sensor system that senses when a latch of a
2 child safety seat is placed on a seat assembly, comprising:

3 sensor means for sensing when the latch of the child
4 safety seat is coupled to the seat assembly; and,
5 a display that is coupled to said sensor means and
6 provides an indication of when the latch of the child
7 safety seat is coupled to the seat assembly.

1 24. The system of claim 23, further comprising a
2 controller that receives an input signal from said sensor
3 means and provides an output signal to said display to
4 indicate when the latch of the child safety seat is coupled
5 to seat assembly.

1 25. The system of claim 23, wherein said sensor means
2 includes a ring that is coupled to the latch of the child
3 safety seat.

1 26. The system of claim 23, wherein said sensor means
2 includes a first housing member, and a second housing
3 member that can move relative to said first and second
4 housing member and a biasing spring that is coupled to said
5 first housing members.

1 27. The system of claim 23, wherein said sensor means
2 includes a magnet and a Hall Effect sensor.

1 28. The system of claim 23, wherein said sensor means
2 includes a switch.

1 29. The system of claim 26, wherein said first housing
2 member includes a flange mounted to a seat frame of the
3 seat assembly.

1 30. The system of claim 26, wherein said first housing
2 member includes a stop that limits the movement of said
3 second housing member.

1 31. A method for sensing when a latch of a child
2 safety seat is coupled to a seat assembly, comprising:
3 coupling the latch of the child safety seat to a sensor
4 that is mounted to the seat assembly; and,
5 displaying an indication that the latch of the child
6 safety seat is coupled to the sensor.

1 32. The method of claim 31, wherein the sensor
2 provides an input signal to a controller that provides an

3 output signal to the display to indicate that the latch of
4 the child safety seat is coupled to the sensor.

1 33. The method of claim 32, wherein the input signal
2 has a varying amplitude.

1 34. The method of claim 32, wherein input signal has
2 one of two values.

1 35. A seat assembly that is coupled to a latch of a
2 child safety seat, comprising:

3 a seat frame;

4 a seat cushion located on said seat frame; and,

5 a sensor that is mounted to said seat frame and is
6 coupled to the latch of the child safety seat.

1 36. The assembly of claim 35, wherein said sensor
2 includes a ring that is coupled to the latch of the child
3 safety seat.

1 37. The assembly of claim 35, wherein said sensor
2 includes a first housing member, and a second housing
3 member that moves relative to said first housing member,

4 and a biasing spring that is coupled to said first and
5 second housing members.

1 38. The assembly of claim 35, wherein said sensor
2 includes a magnet and a Hall Effect sensor.

1 39. The assembly of claim 35, wherein said sensor
2 includes a switch.

1 40. The assembly of claim 37, wherein said first
2 housing member includes a flange that is mounted to said
3 seat frame.

1 41. The assembly of claim 37, wherein said first
2 housing member includes a stop that limits the movement of
3 said second housing member.

1 42. A seat assembly that is coupled to a latch of a
2 child safety seat, comprising:

3 a seat frame;

4 a seat cushion located on said seat frame; and,

5 sensor means for sensing when the latch of the child
6 safety seat is coupled to said seat frame.

1 43. The assembly of claim 42, wherein said sensor
2 means includes a ring that is coupled to the latch of the
3 child safety seat.

1 44. The assembly of claim 42, wherein said sensor
2 means includes a first housing member, and a second housing
3 member that moves relative to said first housing member,
4 and a biasing spring that is coupled to said first and
5 second housing members.

1 45. The assembly of claim 42, wherein said sensor
2 means includes a magnet and a Hall Effect sensor.

1 46. The assembly of claim 42, wherein said sensor
2 means includes a switch that is coupled to said second
3 housing member.

1 47. The assembly of claim 44, wherein said first
2 housing member includes a flange mounted to said seat
3 frame.

1 48. The assembly of claim 44, wherein said first
2 housing member includes a stop that limits the movement of
3 said second housing member.

4 49. A sensor system that is coupled to a latch of a
5 child safety seat that is placed on a seat assembly,
6 comprising:

7 a sensor that is mounted to the seat assembly and
8 coupled to the latch of the child safety seat; and,

9 an airbag that is disabled when the latch of the child
10 safety seat is coupled to said sensor.

1 50. The system of claim 49, further comprising a
2 controller that receives an input signal from said sensor
3 and provides an output signal to disable said airbag when
4 the latch of the child safety seat is coupled to said
5 sensor.

1 51. The system of claim 49, wherein said sensor
2 includes a ring that is coupled to the latch of the child
3 safety seat.

1 52. The system of claim 49, wherein said sensor
2 includes a first housing member, and a second housing
3 member that can move relative to said first housing member,
4 and a biasing spring that is coupled to said first and
5 second housing members.

1 53. The system of claim 49, wherein said sensor
2 includes a magnet and a Hall Effect sensor.

1 54. The system of claim 49, wherein said sensor
2 includes a switch.

1 55. The system of claim 52, wherein said first housing
2 member includes a flange adapted to be mounted to a seat
3 frame of the seat assembly.

1 56. The system of claim 52, wherein said first housing
2 member includes a stop that limits the movement of said
3 second housing member.

1 57. A sensor system that senses when a latch of a
2 child safety seat is placed on a seat assembly, comprising:

3 sensor means for sensing when the latch of the child
4 safety seat is coupled to the seat assembly; and,
5 an airbag that is disabled when the latch of the child
6 safety seat is coupled to said sensor means.

1 58. The system of claim 57, further comprising a
2 controller that receives an input signal from said sensor
3 means and provides an output signal to said disable said
4 airbag when the latch of the child safety seat is coupled
5 to seat assembly.

1 59. The system of claim 57, wherein said sensor means
2 includes a ring that is coupled to the latch of the child
3 safety seat.

1 60. The system of claim 57, wherein said sensor means
2 includes a first housing member, and a second housing
3 member that can move relative to said first and second
4 housing member and a biasing spring that is coupled to said
5 first housing members.

1 61. The system of claim 57, wherein said sensor means
2 includes a magnet and a Hall Effect sensor.

1 62. The system of claim 57, wherein said sensor means
2 includes a switch.

1 63. The system of claim 60, wherein said first housing
2 member includes a flange mounted to a seat frame of the
3 seat assembly.

1 64. The system of claim 60, wherein said first housing
2 member includes a stop that limits the movement of said
3 second housing member.

1 65. A method for sensing when a latch of a child
2 safety seat is coupled to a seat assembly, comprising:
3 coupling the latch of the child safety seat to a sensor
4 that is mounted to the seat assembly; and,
5 disabling an airbag when the latch of the child safety
6 seat is coupled to the sensor.

1 66. The method of claim 65, wherein the sensor
2 provides an input signal to a controller that provides an
3 output signal to disable the airbag when the latch of the
4 child safety seat is coupled to the sensor.

1 67. The method of claim 66, wherein the input signal
2 has a varying amplitude.

1 68. The method of claim 66, wherein input signal has
2 one of two values.

1 69. A sensor system that is coupled to a latch of a
2 child safety seat that is placed on a seat assembly,
3 comprising:

4 a sensor that is mounted to the seat assembly and
5 coupled to the latch of the child safety seat; and,

6 a seat movement device that is disabled when the latch
7 of the child safety seat is coupled to said sensor.

1 70. The system of claim 69, further comprising a
2 controller that receives an input signal from said sensor
3 and provides an output signal to disable said seat movement
4 device when the latch of the child safety seat is coupled
5 to said sensor.

1 71. The system of claim 69, wherein said sensor
2 includes a ring that is coupled to the latch of the child
3 safety seat.

1 72. The system of claim 69, wherein said sensor
2 includes a first housing member, and a second housing
3 member that can move relative to said first housing member,
4 and a biasing spring that is coupled to said first and
5 second housing members.

1 73. The system of claim 69, wherein said sensor
2 includes a magnet and a Hall Effect sensor.

1 74. The system of claim 69, wherein said sensor
2 includes a switch.

1 75. The system of claim 72, wherein said first housing
2 member includes a flange adapted to be mounted to a seat
3 frame of the seat assembly.

1 76. The system of claim 72, wherein said first housing
2 member includes a stop that limits the movement of said
3 second housing member.

1 77. A sensor system that senses when a latch of a
2 child safety seat is placed on a seat assembly, comprising:
3 sensor means for sensing when the latch of the child
4 safety seat is coupled to the seat assembly; and,
5 a seat movement device that is disabled when the latch
6 of the child safety seat is coupled to the seat assembly.

1 78. The system of claim 77, further comprising a
2 controller that receives an input signal from said sensor
3 means and provides an output signal to disable said seat
4 movement device when the latch of the child safety seat is
5 coupled to seat assembly.

1 79. The system of claim 77, wherein said sensor means
2 includes a ring that is coupled to the latch of the child
3 safety seat.

1 80. The system of claim 77, wherein said sensor means
2 includes a first housing member, and a second housing
3 member that can move relative to said first and second
4 housing member and a biasing spring that is coupled to said
5 first housing members.

1 81. The system of claim 77, wherein said sensor means
2 includes a magnet and a Hall Effect sensor.

1 82. The system of claim 77, wherein said sensor means
2 includes a switch.

1 83. The system of claim 80, wherein said first housing
2 member includes a flange mounted to a seat frame of the
3 seat assembly.

1 84. The system of claim 80, wherein said first housing
2 member includes a stop that limits the movement of said
3 second housing member.

1 85. A method for sensing when a latch of a child
2 safety seat is coupled to a seat assembly, comprising:
3 coupling the latch of the child safety seat to a sensor
4 that is mounted to the seat assembly; and,
5 disabling a seat movement device when the latch of the
6 child safety seat is coupled to the sensor.

1 86. The method of claim 85, wherein the sensor
2 provides an input signal to a controller that provides an

3 output signal to disable the seat movement device when the
4 latch of the child safety seat is coupled to the sensor.

1 87. The method of claim 86, wherein the input signal
2 has a varying amplitude.

1 88. The method of claim 86, wherein input signal has
2 one of two values.